DOCUMENT RESUME

ED 348 102 JC 920 398

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TITLE Is There Disproportionate Impact? A Look at the Progress of First Year Students from Pre-College Level Writing to College Level Courses. Riverside Community College.
PUB DATE Apr 91
NOTE 15p.; Paper presented at the Annual Research Conference of the Community College League of California (29th, Asilomar, CA, April 17-19, 1991).
PUB TYPE Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Academic Persistence; Community Colleges; Comparative Analysis; Enrollment; Ethnic Distribution; *Minority Groups; Remedial Programs; *Student Placement; *Test Bias; Two Year Colleges; *Two Year College Students; Writing Evaluation; Writing Tests
IDENTIFIERS Assessment of Student Skills for Entry Transfer; *Riverside Community College CA

ABSTRACT

A study was conducted at Riverside Community College in California to evaluate by ethnic group the enrollment behavior and academic achievement of first-year students who completed assessment testing and were recommended for placement in a pre-college-level writing course. The study sample included the two cohorts of students who enrolled at the college in fall 1989 and fall 1990, and who took the assessment test between May and October of their enrollment year. Students were followed from placement testing to enrollment in the recommended writing course, through enrollment and completion of college-level courses. A total of 5,644 first-year students were tested during the 2-year period, including 750 (13%) who were advised to take pre-college level writing. Among these students, 232 (31%) followed the placement advice; of these, 167 (72%) subsequently enrolled in a college-level course. Study findings included the following: (1) while Whites constituted 58% of the tested population, they comprised only 35% of the students recommended for pre-college-level writing; (2) Asians and Hispanics comprised 6% and 18% of the tested population, respectively, but accounted for 12% and 29% of the students recommended for pre-college-level writing; (3) 43 out of 90 Asian students followed placement advice compared with only 61 of 260 White students recommended for pre-college-level writing; (4) there were no differences found among ethnic groups in persistence from pre-college-level writing to college-level courses; and (5) 67% of the study population successfully completed a college-level course, compared to a college-wide average of 60%. Data tables are included. (PAA)

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A Look at the Progress of First Year Students from Pre-College Level Writing to College Level Courses

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Director of Enrollment Services
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JC 920 398

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ABSTRACT

The purpose of this descriptive study of first-time students was to evaluate testing, placement, and enrollment data to determine whether disproportionate impact occurred. This study also examined progress from pre-college level writing to college level courses. The population being studied was comprised of two groups. Students tested for course placement between May and October 1989 who enrolled for the first time in fall 1989, made up the first group. The second group consisted of students who tested and enrolled during the same period the following year. The tested population was followed as students progressed from recommended placement in pre-college level writing to enrollment in pre-college level writing and then to successful course completion. Those who enrolled in the subsequent semester in at least one college level course were evaluated. Substantial differences among ethnic groups occurred from testing to recommended placement. Asian and Hispanic students were recommended for pre-college level writing at a higher rate than expected. white students were recommended at a lower rate. Differences among ethnic groups between the recommended placement and the subsequent checkpoints in the study were relatively proportionate except for Asian students who followed placement advice at a higher rate than expected and white students who followed at a lower rate. Additionally, Asian students were successful in pre-college level writing at a higher rate than expected. The most striking finding was the high proportion of students who enrolled in pre-college level writing during the fall term and then enrolled in at least one college level course the following spring.

I. INTRODUCTION

During the 1989-90 academic year, the California Community College Chancellor's Office, in collaboration with a number of research groups in the State, made available to the colleges a series of research options for the evaluation of matriculation programs. Among these research options was a design called "Disproportionate Impact and Writing Assessment." This particular research design promised to be useful to the colleges in a number of ways. Its immediate utility was to meet, in part, the State's requirements to evaluate the Assessment Component of college matriculation programs. In short, the State wanted to ensure that the student assessment component of matriculation was free of bias in the placement of students in courses and programs. This concern mirrored the federal interest articulated in the Civil Rights Act of 1964, and monitored through Civil Rights audits that are required periodically of all public community colleges. Title VI of the Civil Rights Act requires the colleges to demonstrate fair treatment of students from "protected" groups.

Beyond State requirements, a college objective for the year was to improve the success of minority students. A close look at sub-groups of students in key course sequences may answer not only questions of how well students are progressing, but also at what points problems may occur. If certain groups of students are found to be at risk, the college can then design services targeted to those students.

II. PURPOSE

The purpose of the study was to evaluate testing, placement, and enrollment data to determine the effect of these college processes on different ethnic groups. The basic study evaluated disproportionate impact at placement, enrollment in pre-college level writing, and progress to college level courses. In addition, the study included an evaluation of student success in both pre-college level writing courses and subsequent college level courses as students progressed in their first year at Riverside Community College.

The particular focus of this study as designed by the Chancellor's Office staff, was the progress of ethnic students. Beyond equity issues, the study allowed the college to evaluate the flow of all students from assessment for recommended course placement into pre-college level writing, success in that course, and progress into at least one college level course the following term. A series of checkpoints provided the opportunity to consider how the college is meeting the needs of its students.

III. DEFINITION OF TERMS

Definitions of a number of terms used in this study may aid the reader.

Disproportionate impact: Disproportionate impact occurs when the percentage of persons from a particular racial, ethnic, gender, age, or disability group who are directed to a particular service or placement based on an assessment instrument, method or procedure is significantly

different than the representation of that group in the population of persons being assessed and that discrepancy is not justified by empirical evidence demonstrating that the assessment instrument, method or procedure is a valid and reliable predictor of performance in the relevant educational setting (Matriculation Regulations Section 55502(c)).

Matriculation:	A process which supports credit students in attaining educational goals. Student services comprising the process include admissions services, assessment and orientation, counseling and educational planning, and follow up on student progress.
First time student:	A student who enrolled at Riverside Community College for the first time in the fall semester following his/her writing assessment.
Success:	Completion of a course with a grade of "A," "B," "C," or "CR."
Persistence:	A student persists to the spring term when any grade (excluding no shows) was earned in the fall term.
Pre-college level writing:	A writing course that does not apply toward the Associate degree and is designed to prepare students for college level writing.
College level course:	A course that applies toward the Associate degree and is not a Physical Education course.
Assessment test:	The ASSET test, an assessment test published by American College Testing (ACT), is used to recommend course placement to students. The writing module of the test is used for pre-college level writing placement and is referred to as the assessment or placement test in this study.

IV. RESEARCH QUESTIONS

Disproportionate Impact

1. Do some ethnic groups who score at the pre-college writing level on the assessment test comprise a greater relative proportion than others?

The answer to this question may tell us something about our students, our testing process, or our test. Ideally, we would be able to compare the academic preparation of students taking the test. If similarly prepared students perform differently on the test, then we might suspect that our testing process affects certain ethnic groups in a different way or that the test is biased.

2. Do students in the ethnic categories under consideration enroll in pre-college level writing in proportions comparable to their recommended placement?

This question explores the extent of advice following by each ethnic group. If there are differences in rates of enrollment, the college will want to assess whether the process is culturally sensitive.

3. Do students in the various ethnic categories who enroll in pre-college level writing persist into college level courses in proportions comparable to their representation in pre-college level writing?

This question addresses the issue of whether students are appropriately placed in pre-college level writing so that they can benefit from the instruction and move on to college level courses. If ethnic students who follow placement advice persist into college level course in proportions relative to their enrollments, then the college can be confident of an equitable process.

Course Success

1. What is the success rate of students in pre-college level writing compared to the college-wide success rate?

If students enrolled in pre-college level writing complete the course with satisfactory grades at a rate equal to or greater than the college-wide rate, the college has an indication that placement is accurate and that students benefit from the instruction in pre-college level writing.

2. Of those who persist into at least one college level course, at what rate do they succeed?

The answer to this question addresses whether the pre-college level writing course is well articulated with college level curricula.

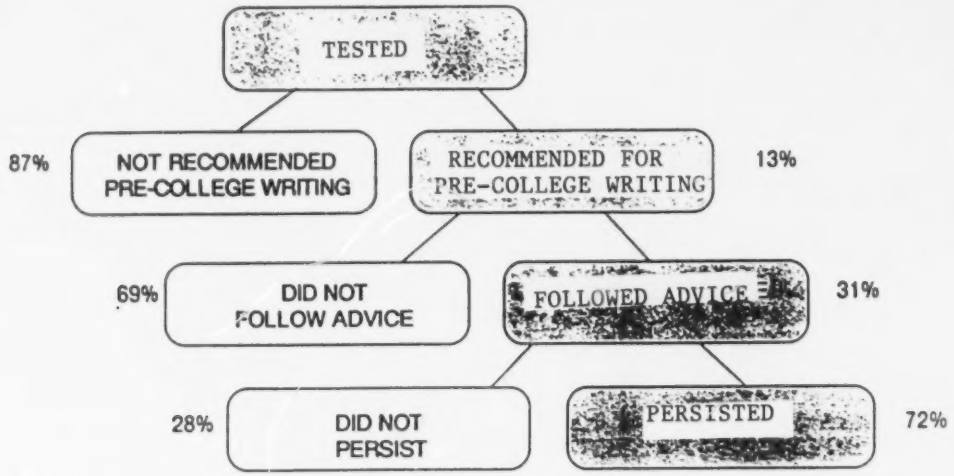
V. METHOD

Overview

The study followed the general outline of Design 4 of the Matriculation Local Research Options Project. The study used data available through the college's computer information system. The group selected was followed through their first year at the college; from assessment testing to second semester enrollment. This method evaluated the group at four different points during their first year. At each of these checkpoints, the proportion of each ethnic group was determined and then compared to the proportion at the previous checkpoint.

The shaded boxes indicate the group this study followed at the four different checkpoints.

Student Flow from Testing to College Level Enrollment



Population

The population under study is comprised of students who took the assessment test between May 1, 1989, and October 1, 1989, and students who took the same test between May 1, 1990, and October 1, 1990, and enrolled for the first time in the subsequent fall semester. Students are scheduled in groups of 50 to take the assessment test and to receive orientation services at their convenience. The assessment portion requires one hour, and 45 minutes. Following the test, students take a 10 minute break while their tests are scored and a "Student Report" is printed for each student. This report includes their test scores and placement advice (see Appendix A). A counselor then meets with the group to discuss course placement, to answer questions, and then to orient the students to the college.

The following data were collected for each student:

1. Name.
2. Social Security Number.
3. Ethnic Status.
4. ASSET Language Usage Test Scores.
5. Enrollment information regarding pre-college level writing during the fall.
6. Enrollment information regarding college level courses during the spring.

Name, Social Security Number, and ethnic status were collected on the Application for Admission. Writing test scores were scanned, uploaded onto the college's mainframe, and reported along with enrollment data.

Steps

Data were collected at six points; four relating to disproportionate impact and two relating to course success. First, baseline data were collected to define the study population, referred to hereafter as the tested population. Subsequently, the tested population was evaluated at checkpoints along the path from writing skills assessment to enrollment in college level courses.

Disproportionate Impact

Step 1: All first-time students at Riverside Community College for the 1989-90 and 1990-91 academic years who took the assessment test between May 1 and October 1, made up the tested population. The data were sorted by ethnic category to provide baseline information.

Step 2: From the tested population, those students who scored at the level at which pre-college level writing is recommended (a score of 32 or lower) were identified by ethnic group. Students who enrolled in English as a Second Language (ESL) courses were excluded from Steps 3-6 for the study.

Step 3: Those students who followed the placement advice and enrolled in the recommended writing course (English 60: English Fundamentals) were identified by ethnic group.

Step 4: It was then determined which students from the tested group persisted into the spring term and enrolled in at least one college level course. Again, the group was divided by ethnic category.

Course Success

Step 5: The numbers of students who were successful in the pre-college level writing course were counted.

Step 6: Finally, the numbers of students who were successful in the college level course(s) in which they enrolled were determined. Since the spring 1991 semester is currently in progress, Step 6 was completed only for those students in the 1989-90 group.

Data

Table 1
Frequency Distribution by Ethnic Group
1989-90 and 1990-91 combined

	COLUMN 1 TESTED	COLUMN 2 RECOMMENDED FOR PRE-COLLEGE LEVEL WRITING	COLUMN 3 ENROLLED IN PRE-COLLEGE LEVEL LEVEL WRITING	COLUMN 4 ENROLLED IN COLLEGE LEVEL COURSE IN SPRING
Other 1	360 6%	63 8%	26 11%	17 10%
Asian 2	316 6%	90 12%	43 19%	35 21%
Black 3	579 10%	108 14%	25 11%	19 11%
White 4	3290 58%	260 35%	61 26%	45 27%
Hispanic 5	1023 18%	217 29%	74 32%	48 29%
Unknown	76 1%	12 2%	3 1%	3 2%
TOTAL	5644	750	232	167

NOTE: "Other" includes Native Americans, Filipinos, and Other Non-Whites. Some students did not indicate their ethnic identity on the Application for Admission. They have been grouped in the "Unknown" category. (See Appendix B.)

VI. DISCUSSION

Disproportionate Impact

Column 1 shows the distribution of students taking the assessment test by ethnic group. The ethnic proportions of students in the tested population match the college student population except in two categories. White students are the largest group making up 63 percent of the student population, while comprising only 58 percent of the tested population. Hispanics are the next largest group, comprising 16 percent of the student population and 18 percent of the tested population. Black students represent 9 percent of the student body compared to 10 percent of the tested group. Asians comprise 5 percent of the student population and 5 percent of the students in the tested group.

Column 2 shows the number of students who scored at the level at which pre-college level writing is recommended. Of the tested population, 13 percent were recommended to take pre-college level writing. This percentage parallels the test performance of community college students across the nation who took the test. ACT does not provide norms by ethnic group; therefore, no comparison can be made among ethnic categories. The most substantial changes in proportions between Columns 1 and 2 are the decline in the proportion of white students from 58 percent to 35 percent, the increase in proportion of Hispanic students from 18 percent to 29 percent, and the increase in proportion of Asian students from 6 percent to 12 percent. For the purposes of this study, the researchers selected differences of five percent or more to be worthy of comment.

There are several possible reasons for disproportionate representation among sub-groups of students and further questions must be addressed. Is there cultural bias in the test itself that would favor some groups over others? Are there differences in the academic preparation of student sub-groups that would account for differences in scores? Are there any testing conditions that would favor some groups over others?

The college cannot answer these questions from the study data, but additional information may clarify the reasons for differences. Information available from the 1990 Graduating Class ACT profile data suggests that there are, in fact, differences in the level of preparation of various ethnic groups. High proportions of Asian and Hispanic students may be attributable to the procedure for identification and placement of ESL students. Some students whose primary language was not English may have taken the ASSET test and enrolled in pre-college writing rather than ESL courses.

Column 3 shows the distribution of students who enrolled in pre-college level writing during the fall semester. Overall, 31 percent of those who were recommended to take pre-college level writing actually enrolled during their first semester. Asian students followed placement recommendations at a higher rate than their representation in Column 2, while white students followed advice at a lower rate than advised. Asians made up 12 percent of the recommended placement population, but enrolled at a rate of 19 percent. The proportion of white students decreased sizably from 35 percent to 26 percent.

Column 4 displays those who, after enrollment in pre-college level writing, persisted into at least one college level course the following spring. RCC's policy is to allow enrollment in a college level course along with pre-college level courses. There is no notable difference in ethnic proportions between those who enrolled in pre-college level writing and those who persisted to a college level course the following term. In comparing Columns 3 and 4 we see that the retention rate of this population across semesters is 72 percent. This is significantly higher than the college-wide rate of 58 percent during the same period.

Chart 1

Ethnic Proportions at Four Checkpoints

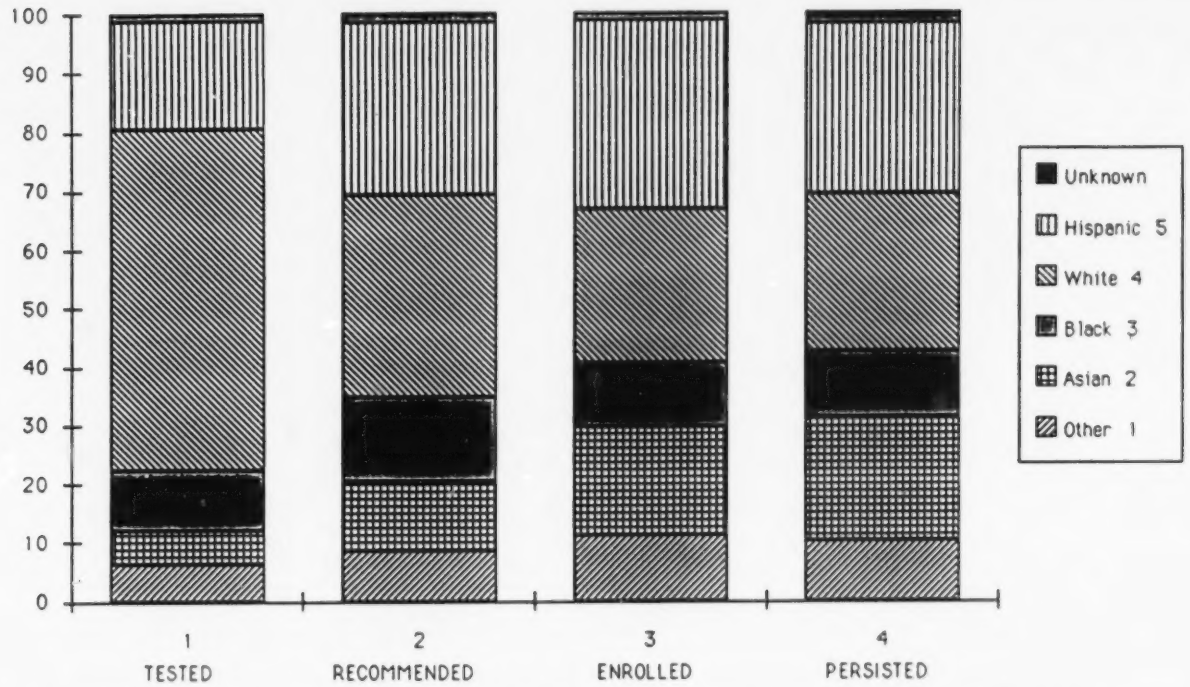


Chart 1 is a graphic representation of the study's population as students progress through the four checkpoints. The width of each band indicates the proportion of students from each ethnic group at each of the four checkpoints.

Course Success

Table 2 represents the success rates of students in the study compared to the college-wide rate. Overall, 66 percent of those who enrolled in pre-college level writing were successful in that course. Of the students who enrolled in at least one college level course the following spring semester, 67 were successful. These rates compare to a college-wide rate of 60 percent. This is a favorable indication for the college. Faculty teaching pre-college level writing courses are working hard to retain students. It appears that placement advice is appropriate and that students value the pre-college level course well enough to complete it and do well.

Table 2

Success Rates

	STUDY GROUP SUCCESS RATE	COLLEGE-WIDE SUCCESS RATE
PRE-COLLEGE LEVEL WRITING	66%	60%
COLLEGE LEVEL COURSE*	67%	60%

* Since Spring 1991 classes are currently in progress, rates for college level courses are for Spring 1990 only.

VII. FUTURE RESEARCH POSSIBILITIES

Test Fairness

Since there are significant differences in proportions among the various ethnic groups between testing and recommended placement, the college will seek research information from ACT to ensure the cultural fairness of the test.

Student Preparation

One promising suggestion to come from the exploration of these results is the idea of developing an "Academic Skills Index" which would be combined with test scores to assess academic preparation. Students' level of preparation would be determined and would include the number and rigor of high school courses. Further study of the academic preparation of first time students will enable the college to compare similarly prepared students in the various ethnic groups.

Matriculation Process

Interviewing students who were included in the study will help to determine whether students understood the matriculation process. Questions should include the following: Did you understand the results of the test? Were the placement recommendations clear to you? Do you feel English 60 helped you prepare for college level courses?

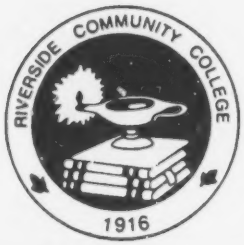
Non-Advice Followers

A large percentage of students opted not to follow placement advice in their first semester at the college. Future study of this group should include the following questions: Did they enroll in pre-college level writing later? What classes *did* they take in their first semester? What are their educational goals and would these goals include English courses? Was the success rate of those who were counseled to, but did not enroll in pre-college level writing, different from those who did?

VIII. CONCLUSION

The main purpose of the study was to evaluate whether disproportionate impact occurred among ethnic groups in testing, recommended placement, enrollment in pre-college level writing, and persistence into college level courses. The design for this study limits assertions about causation. We can say that there are differences among ethnic groups as they progress from testing to persistence into college level courses. However, in order to know whether these differences constitute disproportionate impact, research into test fairness, student preparation, and the matriculation process is necessary to clarify these issues.

APPENDIX A



Riverside COMMUNITY COLLEGE

NAME: Tiffiny L STUDENT I.D. NO.:

Welcome to Riverside Community College. We're glad you're here! Your academic success is the #1 priority of our faculty and staff. We are committed to providing you with a quality educational experience and to helping you achieve your educational goals. We hope you will feel free to call upon us for assistance.

Following are your assessment scores and placement recommendations for courses in Writing, Reading, and Math. Your score (on the left below) should be matched to the placement recommendation on the right to help you select the courses in which you are most likely to succeed. These recommendations are based on the likelihood of your success in courses at the college.

WRITING SKILLS	RANGE	PLACEMENT RECOMMENDATION
40	23 - 32	Qualified for English 60
	33 - 39	Qualified for English 50A
	40 - 54	Qualified for English 1A (if reading score is 37 or more)

READING SKILLS	RANGE	PLACEMENT RECOMMENDATION
33	23 - 30	Enroll in Learning Skills 84
	31 - 34	Enroll in Learning Skills 81
	35 - 39	Qualified for Learning Skills 82A

MATH SKILLS	YOUR SCORE	PLACEMENT RECOMMENDATION
Numerical Skills	30	
Elementary Algebra		Refer to Course Placement Recommendations (Green Sheet)
Intermediate Algebra		
College Algebra		

One test score alone should not be used as the sole basis for a placement decision. Your decision should be based on your success with similar courses in high school and your motivation for taking the course.

If you answered yes or maybe on the Help Needed section of the Educational Planning Form, be sure to get help early in the school term.

HELP NEEDED SECTION	YOUR RESPONSE	WHERE TO GET HELP
1. Financial Aid	N	Student Services - Ext. 246
2. Day Care	N	Early Childhood - Ext. 541
3. Reading Skills	N	Tutorial Services - Ext. 546
4. Writing Skills	N	Tutorial Services - Ext. 546
5. Math Skills	Y	Tutorial Services - Ext. 546
6. Study Skills	Y	Tutorial Services - Ext. 546
7. Student Employment	Y	Library - Ext. 518

APPENDIX B

Frequency Distribution by Ethnic Group
1989-90

	TESTED	RECOMMENDED FOR PRE-COLLEGE LEVEL WRITING	ENROLLED IN PRE-COLLEGE LEVEL LEVEL WRITING	SUCEEDED IN PRE-COLLEGE LEVEL WRITING	ENROLLED IN COLLEGE LEVEL COURSE IN SPRING	SUCCEEDED COLLEGE LEVEL COURSE IN SPRING
Other 1	157 7%	30 10%	15 13%	10 12%	7 8%	3 5%
Asian 2	114 5%	27 9%	17 15%	14 16%	16 17%	14 23%
Black 3	205 10%	44 14%	13 11%	8 9%	12 13%	5 8%
White 4	1248 59%	108 36%	28 24%	23 27%	24 26%	19 31%
Hispanic 5	378 18%	91 30%	41 35%	29 34%	31 34%	20 32%
Unknown	20 1%	4 1%	2 2%	1 1%	2 2%	1 2%
TOTAL	2122	304	116	85	92	62

Frequency Distribution by Ethnic Group
1990-91

	TESTED	RECOMMENDED FOR PRE-COLLEGE LEVEL WRITING	ENROLLED IN PRE-COLLEGE LEVEL LEVEL WRITING	SUCEEDED IN PRE-COLLEGE LEVEL WRITING	ENROLLED IN COLLEGE LEVEL COURSE IN SPRING
Other 1	203 6%	33 7%	11 9%	10 15%	10 13%
Asian 2	202 6%	63 14%	26 22%	23 34%	19 25%
Black 3	374 11%	64 14%	12 10%	4 6%	7 9%
White 4	2042 58%	152 34%	33 28%	16 24%	21 28%
Hispanic 5	645 18%	126 28%	33 28%	14 21%	17 23%
Unknown	56 2%	8 2%	1 1%	1 1%	1 1%
TOTAL	3522	446	116	68	75

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